IN THE CLAIMS

The following is a complete listing of the claims, reflects all changes currently being made thereto, and replaces all earlier versions and listings.

1-4. (Canceled)

5. (Currently Amended) A manufacturing method for an electron source composed of a plurality of electron-emitting devices, each of which emits electrons from an electron-emitting member by applying a driving voltage between a cathode electrode having the electron-emitting member and a counter electrode disposed in opposition to the cathode electrode, the method comprising the steps of:

(A) preparing a plurality of cathode electrodes each having an electron-emitting member, and a counter electrode opposed to the plurality of cathode electrodes;

(B) increasing an applying voltage that is applied between the counter electrode and a first cathode electrode having the first electron-emitting member in the cathode electrodes, from a voltage level lower than a first voltage level which is a maximum voltage level the first cathode electrode has experienced, to a second voltage level higher than the first voltage level ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases~~;

(C) shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the first electron-emitting member changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the counter electrode and the first cathode electrode having the first electron-emitting member in the cathode electrodes from the voltage level lower than the first voltage level to the second voltage level~~, across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~; and

(D) reducing a difference of (i) an electron-emitting characteristic of a second electron-emitting member being operative to emit a relatively greater number of electrons when a predetermined voltage is applied between a second cathode electrode having the second electron-emitting member in the cathode electrodes and the counter electrode and (ii) the electron-emitting characteristic of the first electron-emitting member being operative to emit a relatively lesser number of electrons when the predetermined voltage is applied between the first cathode electrode and the counter electrode, as a result of increasing the applying voltage that is applied between the counter electrode and the first cathode electrode having the first electron-emitting member in the cathode electrodes from the voltage level lower than the first voltage level to the second voltage level~~, across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~.

6. (Previously Presented) A manufacturing method for the electron source according to claim 5, wherein the electron-emitting member includes a carbon fiber.

7 - 9. (Canceled)

10. (Previously Presented) A manufacturing method for the electron source according to claim 6, wherein the carbon fiber is a carbon nanotube and/or a graphite nanofiber.

11. (Previously Presented) A manufacturing method for the electron source according to claim 5, wherein a maximum voltage of the applying voltage is greater than the driving voltage.

12. (Previously Presented) A manufacturing method for an image display apparatus composed of an electron source and a luminescent material film, wherein said electron source is manufactured by the manufacturing method according to claim 5.

13. (Currently Amended) A manufacturing method for an electron-emitting device composed of a cathode electrode and a counter electrode disposed in opposition to the cathode electrode, comprising the steps of:

(A) preparing a cathode electrode and a counter electrode that is opposed to the cathode electrode;

(B) increasing an applying voltage that is applied between the cathode electrode and the counter electrode, from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrode has experienced, to a second voltage level higher than the first voltage level; ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the cathode electrode decreases;~~ and

(C) shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the cathode electrode changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the cathode electrode and the counter electrode from the voltage level lower than the first voltage level to the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the cathode electrode decreases~~.

14. (Previously Presented) A manufacturing method for the electron-emitting device according to claim 13, wherein a maximum voltage of the applying voltage is higher than a driving voltage of the electron-emitting device.

15. (Previously Presented) A manufacturing method for the electron-emitting device according to claim 13, further comprising a step of preparing an electron-emitting member including a carbon fiber on the electron-emitting member.

16. (Previously Presented) A manufacturing method for the electron-emitting device according to claim 15, wherein the carbon fiber is a carbon nanotube and/or a graphite nanofiber.

17. (Previously Presented) A manufacturing method for an image display apparatus composed of an electron-emitting device and a luminescent material film, wherein said electron-emitting device is manufactured by the manufacturing method according to claim 13.

18. (Currently Amended) A characteristic adjusting method for adjusting an electron-emitting characteristic of an electron-emitting device composed of a cathode electrode having a plurality of carbon fibers and a counter electrode disposed in opposition to the cathode electrode, comprising the steps of:

increasing an applying voltage that is applied between the cathode electrode and the counter electrode from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrode has experienced, to a second voltage level higher than the first voltage level ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases~~; and

shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the electron-emitting device of the cathode electrode changes from a point corresponding to the first voltage level to a point corresponding to the

second voltage level, as a result of increasing the applying voltage that is applied between the cathode electrode and the counter electrode from the voltage level lower than the first voltage level to the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases~~.

19. (Canceled)

20. (Previously Presented) An image display apparatus having (i) a plurality of electron-emitting devices each of which emits electrons from an electron-emitting member by applying a driving voltage between a cathode electrode having the electron-emitting member composed of a plurality of carbon fibers and a counter electrode disposed in opposition to the cathode electrode and (ii) a luminescent material film, wherein said image display apparatus is manufactured by the manufacturing method according to claim 12.

21. (Previously Presented) An image display apparatus having (i) a plurality of electron-emitting devices each emits electrons from an electron-emitting member by applying a driving voltage between a cathode electrode having the electron-emitting member composed of a plurality of carbon fibers and a counter electrode disposed in opposition to the cathode electrode and (ii) a luminescent material film,

wherein said image display apparatus is manufactured by the manufacturing method according to claim 17.

22. (Currently Amended) A manufacturing method for an electron source composed of a plurality of electron-emitting devices, each of which emits electrons from an electron-emitting member by applying a driving voltage between a cathode electrode having the electron-emitting member and a counter electrode disposed in opposition to the cathode electrode, comprising the steps of:

(A) preparing a plurality of cathode electrodes each having an electron-emitting member, and a plurality of counter electrodes that are respectively opposed to the plurality of cathode electrodes;

(B) increasing an applying voltage that is applied between a first cathode electrode having a first electron-emitting member in the cathode electrodes and a first counter electrode opposed to the first cathode electrode in the counter electrodes, from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrodes have experienced, to a second voltage level higher than the first voltage level ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases~~;

(C) shifting a point where an inclination in an [[the]] F-N plot of an [[the]] electron-emitting characteristic of the first electron-emitting member changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the first cathode

electrode and the first counter electrode from the voltage level lower than the first voltage level to the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~; and

(D) reducing a difference of (i) an electron-emitting characteristic of a second electron-emitting member being operative to emit a relatively greater number of electrons when a predetermined voltage is applied between a second cathode electrode having the second electron-emitting member in the cathode electrodes and a second counter electrode opposed to the second cathode electrode, different from the first counter electrode in the counter electrodes and (ii) the electron-emitting characteristic of the first electron-emitting member being operative to emit a relatively lesser number of electrons when the predetermined voltage is applied between the first cathode electrode and the first counter electrode, as a result of increasing the applying voltage that is applied between the first cathode electrode and the first counter electrode from the voltage level lower than the first voltage level to the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~.

23. (Previously Presented) A manufacturing method for the electron source according to claim 22, wherein the electron-emitting member includes a carbon fiber.

24. (Previously Presented) A manufacturing method for the electron source according to claim 23, wherein the carbon fiber is a carbon nanotube and/or a graphite nanofiber.

25. (Previously Presented) A manufacturing method for the electron source according to claim 22, wherein a maximum voltage of the applying voltage is higher than the driving voltage.

26. (Previously Presented) A manufacturing method for an image display apparatus composed of an electron source and a luminescent material film, wherein said electron source is manufactured by the manufacturing method according to claim 22.

27. (Currently Amended) A method of manufacturing and operating an electron source composed of a plurality of electron-emitting devices, each of which emits electrons from an electron-emitting member by applying a driving voltage between a cathode electrode having the electron-emitting member and a counter electrode disposed in opposition to the cathode electrode, the method comprising the steps of:

(A) preparing a plurality of cathode electrodes each having an electron-emitting member, and a counter electrode opposed to the plurality of cathode electrodes;

(B) increasing an applying voltage that is applied between the counter electrode and a first cathode electrode having the first electron-emitting member in

the cathode electrodes, from a voltage level lower than a first voltage level which is a maximum voltage level the first cathode electrode has experienced, to a second voltage level higher than the first voltage level; ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases;~~

(C) shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the first electron-emitting member changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the counter electrode and the first cathode electrode having the first electron-emitting member in the cathode electrodes from the voltage level lower than the first voltage level to the second voltage level~~, across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~;

(D) reducing a difference of (i) an electron-emitting characteristic of a second electron-emitting member being operative to emit a relatively greater number of electrons when a predetermined voltage is applied between a second cathode electrode having the second electron-emitting member in the cathode electrodes and the counter electrode and (ii) the electron-emitting characteristic of the first electron-emitting member being operative to emit a relatively lesser number of electrons when the predetermined voltage is applied between the first cathode electrode and the counter electrode, as a result of increasing the applying voltage that is applied between the counter electrode and the first

cathode electrode having the first electron-emitting member in the cathode electrodes from the voltage level lower than the first voltage level to the second voltage level~~, across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the first electron-emitting member decreases~~; and

(E) operating the electron source by applying a voltage between the counter electrode and the first cathode electrode having values restricted to being below the voltage above which the absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases.

28. (Currently Amended) A method for manufacturing and operating an electron-emitting device composed of a cathode electrode and a counter electrode disposed in opposition to the cathode electrode, comprising the steps of:

(A) preparing a cathode electrode and a counter electrode that is opposed to the cathode electrode;

(B) increasing an applying voltage that is applied between the cathode electrode and the counter electrode from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrode has experienced, to a second voltage level higher than the first voltage level~~; across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the cathode electrode decreases;~~

(C) shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the cathode electrode changes from a point

corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the cathode electrode and the counter electrode from the voltage level lower than the first voltage level to the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the cathode electrode decreases~~; and

(D) operating the electron-emitting device by applying a voltage between the counter electrode and the cathode electrode from the voltage level lower than the first voltage level to the second voltage level ~~having values restricted to being below the voltage above which the absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases~~.

29. (Currently Amended) A characteristic adjusting method for adjusting an electron-emitting characteristic of an electron-emitting device composed of a cathode electrode having a plurality of carbon fibers and a counter electrode disposed in opposition to the cathode electrode and for operating the electron-emitting device, comprising the steps of:

increasing an applying voltage that is applied between the cathode electrode and the counter electrode from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrode has experienced, to a second voltage level higher than the first voltage level; ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases;~~

shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the electron-emitting device of the cathode electrode changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the cathode electrode and the counter electrode from the voltage level lower than the first voltage level to the second voltage level; ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases;~~ and

operating the electron-emitting device by applying a voltage between the counter electrode and the cathode electrode from the voltage level lower than the first voltage level to the second voltage level ~~having values restricted to being below the voltage above which the absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases~~.

30. (Currently Amended) A characteristic adjusting method for adjusting an electron-emitting characteristic of an electron-emitting device composed of a cathode electrode having a plurality of carbon fibers and a counter electrode disposed in opposition to the cathode electrode and for operating the electron-emitting device, comprising the steps of:

increasing an applying voltage that is applied between the cathode electrode and the counter electrode from a voltage level lower than a first voltage level which is a maximum voltage level the cathode electrode has experienced, to a second

voltage level higher than the first voltage level; ~~across a voltage above which an absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases;~~

shifting a point where an inclination in an [[the]] F-N plot of [[the]] an electron-emitting characteristic of the electron-emitting device of the cathode electrode changes from a point corresponding to the first voltage level to a point corresponding to the second voltage level, as a result of increasing the applying voltage that is applied between the cathode electrode and the counter electrode from the voltage level lower than the first voltage level in the second voltage level ~~across the voltage above which the absolute value of the inclination in the F-N plot of the electron-emitting characteristic of the electron-emitting device of the cathode electrode decreases~~; and

operating the electron-emitting device by applying a voltage between the counter electrode and the cathode electrode from the voltage level lower than the first voltage level to the second voltage level ~~having values restricted to being below the voltage above which the absolute value of an inclination in an F-N plot of an electron-emitting characteristic of the first electron-emitting member decreases~~.